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EXAMINER	
LIE, ANGELA M	
ART UNIT	**PAPER NUMBER**
2821	

DATE MAILED: 08/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,058	KO, CHUNG-WEN	
	Examiner	Art Unit	
	Angela M. Lie	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/28/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *03/28/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over May (US 6211613) in the view of Van Order (US 6247820).

As to claim 1, May teaches an electroluminescent display comprising: a transparent display panel (Figure 1, elements 12,4 and 2), a reflective sheet (Figure 1, element 10). May does not disclose a brightness regulating film for light transmission between the transparent display panel and the reflective sheet. Van Order teaches electro-optic medium placed between two electrodes (Figure2, elements 19, 15 and 17), where it is used to change light transmissivity (column 3, lines 26-29 and lines 46-48). It would have been obvious to one of the ordinary skill in the art during the time when the invention was made to incorporate electro-optic medium placed between two electrodes, as taught by Van Order into May's organic electroluminescent display, because this allows to keep a high contrast of displayed image regardless of ambient light intensity.

As to claim 2, May and Van Order teach all the limitations presented in claim 1. May also teaches the display wherein the transparent display panel comprises: a transparent substrate (Figure 1, element 12), a first transparent electrode over the

transparent substrate (Figure 1, element 4), a light emitting layer over the first transparent electrode (column 6, lines 22-26), a second transparent electrode over the light emitting layer (Figure 1, element 2).

As to claim 3, May teaches the display wherein the light-emitting layer is an organic electroluminescent film (column 6, lines 21-26).

As to claim 4, Van Order teaches the display wherein the brightness regulating film is an optical slit (Figure 2, element 15) to control light transmission from the environment (column 3, lines 46-48).

As to claim 5, Van Order teaches the display wherein the brightness regulating film is made of electrochromic material (column 7, lines 39-40) or liquid crystal (column 7, lines 41-43) capable for controlling light transmission thereon by adjusting current applied thereto (column 3, lines 44-48, Van Order teach using a control voltage to control transmission of the medium, however current and voltage are related, therefore controlling voltage also leads to controlling current).

As to claim 6, Van Order teaches the display further comprising a photo sensor (column 3, lines 48-49) to detect light intensity of the environment (column 1, lines 43-44).

As to claim 7, Van Order teaches the display wherein the brightness regulating film adjusts the light transmission intensity from the environment according to a light intensity of the environment detected by the photo sensor (column 1, lines 41-44).

As to claim 8, Van Order teaches the display wherein the brightness regulating film (Figure 2, element 15) adjusts a light-transmitting mode thereof by controlling

current intensity applied thereon (column 3, lines 46-48, since voltage and current are related, controlling voltage leads also to controlling current) according to a light intensity of the environment as detected by the photo sensor (column 1, lines 43-44).

Response to Arguments

Applicant's arguments filed on July 28, 2005 have been fully considered but they are not persuasive.

With respect to the applicant's assertion that May and Van Order are not-analogous art and therefore cannot be combined properly, an examiner respectfully disagree with this statement. It is true that May teaches an electroluminescent display while Van Order teaches an electro-optic mirror with contrasting display. Since the electro-optic mirrors for the vehicle often have a display or even screen, for instance the mirror disclosed by Van Order displays time (Figure 5, element 60) or mirror taught by Schofield et al in (US 20040145457) having even two video displays (Figure 9), and the structure of the mirror itself has resembling similarity to the structure of the electroluminescent screen (i.e. two electrodes, reflecting surface on one side and viewing surface on the opposite side), therefore it would have been obvious to one of the ordinary skill in the art to use certain teachings in particular the electrochromic layer, in order to improve contrast of an electroluminescent display. An examiner is strongly convinced that the mirror with the display as taught by Van Order and the electroluminescent display as disclosed by May, are analogous to the degree that would allow one skilled in the art use the electrochromic layer as taught by Van Order and

place it in the electroluminescent display as taught by May. For the reasons disclosed above it is believed that May's and Van Order's references are combined properly.

With respect to the applicant's assertion on page 4, that there must have been some teaching in the prior art to suggest to one skilled in the art that the claimed invention would have been obvious, the examiner respectfully agrees with this statement, however it is important to note as the applicant recites on page 6, "a reference need not expressly teach that the disclosure contained therein should be combined with another, the showing of combinability, in whatever form, must be clear and particular". As it was mentioned in the previous paragraph, Van Order teaches the mirror with the display (Figure 2), which has a structure comprising two electrodes between which electrochromic material is disposed, a reflective layer on one side and viewing layer on the opposite side. This structure is very similar to the structure of electroluminescent screen as taught by May (Figure 1). Furthermore it is important to note that the mirror as taught by Van Order, also comprises a time display, and even though it is not an electroluminescent display, in direct contact with changing ambient brightness, it faces similar problems such as glare or poor contrast. Therefore it would have been obvious to one of ordinary skill in the art to look into the mirror as disclosed by Van Order to find solution to the poor contrast if the ambient light is too bright, i.e. electrochromic material, and then use it in the electroluminescent screen, and place it between two electrodes as taught by Van Order.

On page 5, the applicant cites the case law wherein it is written: "Both the suggestion and the expectation of success must be founded in the prior art, not in the

applicants disclosure". An examiner fully agrees with this statement, however it is important to note that suggestion and expectation of success do not need to be expressed directly. As it was discussed in the previous paragraphs, the structure of the mirror with the display as taught by Van Order has resembling similarity to the structure of the electroluminescent screen as taught by May, therefore this similar structure allows one skilled in the art to place an electrochromic layer in between the electrodes of an electroluminescent display. Furthermore it is shown in the Van Order's reference that an electrochromic material placed between the electrodes improves the contrast of the mirror display, knowing that the structure of an electroluminescent screen has a similar structure to the mirror as taught by Van Order, it also provides reasonable expectation of success. The applicant did not mention any explanations, which would support the idea that an electrochromic layer used by Van Order, would not work, once inserted in an electroluminescent display as taught by May.

With respect to the applicant's assertion that there must not only be a suggestion to combine the functional or operational aspects of the combined references, but that the Federal Circuit also requires the prior art to suggest both the combination of elements and the structure resulting from the combination, an examiner would like to note that once the prior art suggests the combination of elements, inherently it results in the structure resulting from the combination. As it was explained above, similar structure and order of the layer of mirror with a display and an electroluminescent display would lead one of the ordinary skill in the art to use an electrochromic material for improving

the contrast as taught by Van Order and placing it in the electroluminescent screen as taught by May.

With respect to the applicant's assertion that the prior art must properly suggest the desirability of combining the particular elements to create an electroluminescent display as claimed by the Applicant, an examiner fully agrees with this statement. The prior art used in the rejection does indirectly suggest desirability for combining an electrochromic material and electroluminescent display. Van Order teaches that an electrochromic material maintains the contrast of the display independently of day or night (column 2, lines 1-2), and it is also well known to one skilled in the art that LCD as well electroluminescent displays and other display elements face a lot of problems with contrast whenever the ambient light is too bright. Even though May does not express the need for improving his invention, there is always place for improvement, especially with rapidly improving technology. For at least the reasons disclosed above, an examiner believes that suggestion for desirability for combining the elements does exist in the prior art.

With respect to the applicant's assertion that an evidence of a suggestion, teaching, or motivation to combine prior art references may flow, inter alia, from the references themselves, the knowledge of one of ordinary skill in the art or from the nature of the problem to be solved, as shown in the previous paragraphs that evidence of suggestion flows from all of the sources mentioned by the applicant, i.e. references themselves suggest an improvement that could be made to the electroluminescent display, and similar structure of mirror with display and electroluminescent panel bring

an expectation of success. Furthermore, the knowledge of one of the ordinary skill in the art is essential to make an improvement, and there is also a nature of problem to be solved, which in this case is an improvement to the existing design, in particular the better contrast.

With respect to the applicants assertion on page 6, stating that is here is no apparent disadvantage present in a particular prior art reference, then generally there can be no motivation to combine the teaching of another reference with the particular prior art reference, an examiner agrees that logically statement disclosed above is correct, however it omits a very important aspect in particular, the motivation can be driven either by the existing disadvantage or need of improvement caused by constantly improving technology. As it was mentioned in one of the previous paragraphs, it is well known in the art that wide range of displays, needs improvement with contrast particularly when ambient light is too bright. Van Order teaches that there is a solution for that, and that it works for the mirror with the display, which has similar structure to the electroluminescent screen. For the reasons listed above, an examiner considers that the need for improvement is the cause for combining the teachings.

Furthermore, the applicant states on page 6, that the evidence of teaching or suggestion is "essential" to avoid hindsight. Van Order does teach to use an electrochromic layer and he clearly states advantages of using such a layer, in particular improving the contrast of the display independently of day or night. LCD display or EL screens still have a place for improvement especially when it comes to contrast of the displayed picture when the ambient light has a high intensity. An

examiner considers those evidences of teaching to be sufficient to motivate one skilled in the art to put an electrochomic layer between electrodes of an electroluminescent display, and therefore it is not considered to be hindsight.

On the bottom of page 6, the applicant states that in forming an obviousness type rejection, the examiner must identify specifically the reasons one of ordinary skill in the art would have been motivated to select the references to combine them. An examiner in the rejection used the motivation stating that the combination of Van Order with May "allows to keep a high contrast of display image regardless of ambient light intensity", according to the applicant, this statement would not make it obvious to one skilled in the art to use an electrochromic layer in the electroluminescent display in order to improve the contrast of the displayed picture. An examiner notes that not even a person of ordinary skill in the art, can notice that LCD or EL display does not have a good contrast if there is bright light shining on the display, van Order teaches that this can be improved by using an electrochromic layer, an examiner believes that one skilled in the art should realize that electrochromic material can be used in the electroluminescent display in order to improve the contrast.

With respect to the applicant assertion on page 7 that the reference teaches away from the combination with another reference, an examiner disagrees with this statement. An applicant did not point any sentences in the references, which would state that an electrochromic layer could not be used for electroluminescent displays. None of the references, at any point suggest that the line of development flowing from

the reference's disclosure is unlikely to be productive of the result sought by the applicant.

In conclusion, an examiner holds the same position as before, rejecting all the claims 1-8. An examiner considers an improvement of contrast of an electroluminescent display as a very desirable feature. Furthermore, Van Order's teaching about using an electrochromic layer to improve contrast, is sufficient for one of the ordinary skill in the art to recognize that an electrochromic material can be used to improve the contrast of an electroluminescent display especially when the ambient light is very bright. With respect to claims 2-8, those claims were previously rejected, and the applicant argued that rejection of claim 1 is improper and therefore claims 2-8 dependent on claim 1, cannot be rejected. Since claim 1 remains rejected and no corrections were made to the dependent claims, claims 2-8 remain rejected as well.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Angela M Lie

THUY V. TRAN
PRIMARY EXAMINER